

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Nondiscrimination in the Distribution of)
Interactive Television Services Over Cable)
)
)

CS Docket No. 01-7 /

COMMENTS OF AT&T CORP.

Mark C. Rosenblum
Stephen C. Garavito
Martha L. Marcus
AT&T Corp.
295 N. Maple Avenue
Room 1131M1
Basking Ridge, NJ 07920

WILLKIE FARR & GALLAGHER
Three Lafayette Centre
1155 21st Street, N.W.
Suite 600
Washington, D.C. 20036-3384

Douglas Garrett
AT&T Broadband
188 Inverness Drive West
Englewood, CO 80112

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SUMMARY

The Commission should close this proceeding without proposing, let alone adopting, any regulations of interactive television ("ITV"). There are several reasons for this approach.

First, regulation of ITV is entirely premature. The ITV "business" is virtually non-existent; it is unclear what types of ITV services consumers will demand, what technology solutions will prove optimal, and what business model (or models) will work for ITV. Most ITV services exist only at the trial level today, and there has been no proven revenue stream associated with any of these possible services. In preparing these comments, AT&T undertook an extensive review of analyst reports on ITV, and, as indicated below, these reports uniformly support this view of the embryonic and highly fluid nature of ITV.

Second, regulation of ITV is unnecessary. There are low barriers to entry and a large and diverse range of companies investing in ITV technology, distribution, and services. Even in the early stages of ITV, there is every reason to believe that the business will be characterized by significant competition and innovation at both the ITV content and distribution levels. The two fundamental assumptions that underlie the suggestion in the *Notice* that regulation may be needed -- *i.e.*, that cable systems will have an insurmountable technological advantage in ITV service distribution and that cable operators will have an incentive to discriminate against unaffiliated ITV services -- are simply incorrect, and, in fact, are belied by marketplace facts. DirecTV and EchoStar, for example, have vigorously pursued the development and deployment of ITV services, and financial analysts are bullish about the prospects of DBS in the ITV business. Indeed, it is hard to understand how the *Notice* could conclude that cable has an insurmountable technological advantage over DBS when satellite systems in Europe -- where ITV deployment is well ahead of that in the United States -- are the dominant ITV players. Moreover, the presence of DBS, as well as other competitors, such as ADSL and VDSL

providers, ensures that cable operators will respond to consumer demands for multiple sources of content and undercuts the suggestion that cable operators would have the incentive or ability to discriminate against unaffiliated ITV content suppliers. Indeed, there is ample evidence that various ITV players, including unaffiliated content providers, are in fact reaching adequate commercial agreements through contractual negotiations without the need for government intervention.

Third, premature regulation of ITV will harm consumers. As the Commission has recognized in other contexts -- and as the economic literature makes plain -- regulation of ITV at this early stage would create enormous uncertainty and could undermine investment in these new services, a result that would harm consumers by limiting the types of innovative ITV services that are tested and ultimately deployed. For this reason, the Commission has wisely exercised extreme caution when considering possible regulation of nascent broadband-related services.

Fourth, regulation of ITV would conflict with the Communications Act and Commission precedent. The Commission consistently has refrained from regulation where, as here, there is no defined product market. In the *AOL-Time Warner Merger Order*, Chairman Powell pointed out that a clear market definition is the “foundation” of a well-grounded competitive analysis and cautioned against efforts to “anticipate harms relating to a loose collection of largely hypothetical, not-yet-existent services.” Since ITV is just such a business, there is no way to develop a sound competitive analysis that would justify regulation. However, even if the Commission were to attempt to classify ITV for regulatory purposes, it does not possess the authority to impose the non-discrimination conditions discussed in the *Notice*. At most, ITV services (when provided by cable system operators) are cable services and/or information services, but they are not telecommunications services. Therefore, the plain language of the

Communications Act and Commission rules prevent the Commission from imposing common carrier-like regulations on cable operators' ITV service offerings. Nor can the Commission rely on Section 612(g) of the Act as an independent basis for regulating ITV, because the 70/70 threshold has not been reached and because that section is limited to leased access, which is not relevant here.

Finally, given cable operators' First Amendment rights, as underscored by the D.C. Circuit's recent decision in *Time Warner Entertainment v. FCC*, even where there is a specific Congressional statute addressing the issue, the Commission may only impose such regulations based on substantial record evidence of anti-competitive behavior by cable operators. There is simply *no* such evidence to support regulation of ITV.

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COMMENTS OF AT&T CORP.

AT&T Corp. ("AT&T") respectfully submits these comments in response to the Commission's Notice of Inquiry ("*Notice*") in the above-captioned proceeding.¹

I. REGULATION OF ITV IS ENTIRELY PREMATURE: ITV IS IN THE VERY EARLY STAGES OF DEVELOPMENT, AND MANY IMPORTANT QUESTIONS REGARDING CONSUMER PREFERENCES, TECHNOLOGY, AND BUSINESS MODELS HAVE YET TO BE RESOLVED.

After over two decades of false starts and unfulfilled promises, interactive television ("ITV") is only now beginning to emerge as a credible business opportunity. Companies from a broad range of industries are making substantial investments to develop ITV services and build the infrastructure and equipment necessary to deploy them. Nonetheless, ITV is still a nascent business filled with innumerable uncertainties and risks. Even if ITV succeeds, it will take considerable time to mature. ITV competitors have yet to determine what services consumers want, how they will provide those services within the current and ever-changing technological

¹ *In re Nondiscrimination in the Distribution of Interactive Television Services Over Cable*, Notice of Inquiry, CS Docket No. 01-7, FCC 01-15 (released Jan. 18, 2001) ("*Notice*").

framework, and how to implement an ITV business model that allows them to recoup the significant investments they have made to provide ITV services. The successful transition to broad ITV deployment and widespread consumer adoption will be a gradual and highly dynamic process. Regulation in such circumstances is entirely premature.

A. Uncertainties Regarding ITV Consumer Preferences.

Although DBS, cable, telephone, and other companies are exploring various approaches to deploying ITV services, and while numerous companies are investing in various aspects of those services, to date, there is no clear sense of what ITV is or how it can be made commercially viable. As Chairman Powell recently noted, "ITV remains (stubbornly) in its infancy, leaving us with an unfocused picture of what the products should be or of the contours of the market for such products."² Another industry observer noted that ITV today is "like a confused adolescent going through an identity crisis and trying to figure out what it will be when it grows up."³ Even ITV providers cannot agree on a definition of the service. ITV has been used to describe everything from electronic/interactive program guides ("EPGs") and video-on-demand ("VOD") to television commerce ("t-commerce"), enhanced TV, time-shifted programming, interactive games, video recording through a personal video recorder/digital video recorder (collectively "DVR"), Web browsing on TV, e-mail, and home banking.

² See *In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner, Inc., Transferee*, Mem. Opin. & Order, CS Dkt. No. 00-30, FCC 01-12 (rel. Jan. 22, 2001) (Statement of Commissioner Michael K. Powell, Concurring in Part and Dissenting in Part), at 3 ("*Powell Separate Statement*"). See also William Echikson, *Europe's I-TV Advantage*, Business Week (Int'l Edition), Feb. 19, 2001, available at http://www.businessweek.com/2001/01_08/b3720031.htm ("So far, interactive TV remains a work-in-progress Indeed, the most entertaining thing to watch may be the companies battling to stay in the lead. In I-TV, anyone can still win."); The Strategis Group, *Interactive TV: Platforms, Content and Services*, Sept. 2000, at 45 ("Interactive TV is a new phenomenon, currently accessible by only a few hundred thousand subscribers that have access to specially enabled cable systems, DBS, and specialized services such as AOLTV, WebTV, and WorldGate.").

³ Craig Leddy, *Remember: I in ITV Isn't for Internet*, Multichannel News, Feb. 12, 2001, at 42.

Moreover, it is not yet clear how consumers will react to ITV. While some consumers have expressed strong interest in ITV, numerous surveys, focus groups, and other research by industry analysts have found that many consumers are unaware of interactive services and have little understanding of how ITV is likely to change their television viewing experience.⁴

According to one survey, for example, many consumers appear to be wed to the traditional, passive television viewing experience and few may make the transition to interactive viewing until they have a better understanding of what they are missing.⁵ Some analysts suggest that what is needed is a “killer application” that might entice more TV viewers to use ITV services.⁶

In short, it remains to be seen when, how, and to what extent consumers will accept ITV services.⁷ Even today, despite growing industry enthusiasm for ITV, there still is no overwhelming evidence that ITV will be deployed on a mass scale approaching the Internet, VCRs, or traditional television networks.⁸ Against this backdrop, it is difficult to see how at this

⁴ See, e.g., Int'l Data Corp., *NetTV Market Forecast and Analysis, 1999-2004*, IDC Report #22666, Aug. 2000, at 101 (“IDC Report”) (“Numerous surveys, focus groups, and other research by IDC and others reveal that consumers are unaware of interactive services and have little understanding of what may lie ahead on their televisions. This makes it difficult or even impossible to judge consumer interest in the various types of applications that can be delivered.”); Johnnie L. Roberts, *The New Cable Guy*, Newsweek, Feb. 19, 2001, available at <http://www.msnbc.com/news/529455.asp> (“[T]he demand for the sexy new entertainment offerings is uncertain. . . . Finally, after countless false starts by the media industry, consumers are skeptical about yet one more promise of a seamless interactive service.”)

⁵ See David Lake, *Who Wants Their ITV?*, The Standard, Jan. 8, 2001, at <http://www.thestandard.com/research/metrics/display/0,2799,21272,00.html> (“The problem is that consumers can't imagine what they'd do with these services if they had them.”).

⁶ *Id.* (quoting Nielsen Media Research analyst as saying: “There needs to be a killer app that brings people to interactive TV, but so far there isn't one.”). See also Bruce Stephen & Mary Joy Scafidi, IDC, *Will Interactive TV Succeed?*, IDC Executive Insights Bulletin, July 2000, at 5-6.

⁷ See IDC Report, *supra* note 4, at 100-01 (noting that “[t]here continues to be considerable debate about consumer expectations and needs” and that “[c]onsumer interest and use will dictate not only the success (or failure) of the market in general but also the success of companies and technologies”).

⁸ See The Meyers Group, *Interactive Television Outlook 2000*, at 9 (June 2000) (“*Interactive TV 2000*”).

early stage of development the Commission could even begin to formulate a sensible definition of ITV services, let alone develop regulations governing yet-to-be formulated business models and contractual relationships.

B. Uncertainties Regarding Unresolved Technology Issues.

In addition to the uncertainty surrounding consumer demand, the rollout of ITV services has been slowed by a host of technology issues. Among other things, there is no consensus on the preferable technical platform for the distribution of ITV, no technical standards for applications to be run over ITV platforms, and no agreement on an optimal, user-friendly consumer interface.⁹ While such uncertainty is not uncommon in a nascent market involving cutting-edge technology,¹⁰ the fragmentation and resulting lack of technical standards at this early stage of development have contributed to the sluggish deployment of ITV services.¹¹ This situation is further exacerbated by the almost daily introduction of unique ITV hardware and

⁹ See *id.* at 81 (“On the technology front, there is still no singular platform or interface/application combination that is being deployed with enough ubiquity to guarantee any ITV service’s financial success.”).

¹⁰ Competition among companies vying to develop and deploy favored technological solutions will ultimately yield to industry-wide standards. See, e.g., Stanley M. Besen & Leland L. Johnson, *Compatibility Standards, Competition, and Innovation in the Broadcasting Industry*, Rand Corporation, Nov. 1986 (noting that when technology “settles down,” the advantages of standards will present themselves, resulting in *de facto* standards being established by the market or industry bodies). For example, the cable industry already is moving towards adoption of a middleware specification to facilitate portability of ITV services across various platforms. See Jeff Baumgartner, *Middleware Spec Out for Comment*, Multichannel News, March 5, 2001 (noting that draft middleware specification was issued to about 400 vendors for comment in early March, 2000). See also *infra* note 112 regarding the risks associated with government regulation of standards in highly-dynamic industries.

¹¹ See Pascal Volle, *iTV’s Slow Motion: What’s Behind the Sluggish Rollout of Interactive Television*, Inside, Dec. 29, 2000, available at http://www.inside.com/jcs/Story?article_id=18775&pod_id=11; Jupiter Communications, *Global iTV Markets: US Still Missing Crucial European Lessons*, Jupiter Concept Report, July 26, 2000, at 3 (“Unfortunately for programmers, advertisers, and iTV merchants, there will be no common core technology platform for iTV, regionally nor nationally throughout the US. Due to carrier diversity, no single technology nor even style of iTV will dominate in the near term. Also, standards efforts are sluggish, making third party cross-development necessary.”).

software applications, as well as the varying and evolving business strategies of the many players in the ITV business.¹²

One example of this technological uncertainty involves the “triggers” used to deliver ITV applications to consumers. The *Notice* presumes that ATVEF triggers are the standard method for accessing ITV content.¹³ While the Commission may ultimately be proven correct in this assumption, it is still unclear whether ATVEF triggers will be universally adopted. For example, the ATVEF standard currently requires that ATVEF A triggers process user activation requests immediately and in real-time. As a result, ITV service providers must test ATVEF A triggers to ensure, among other things, that the simultaneous clicking on an ATVEF A trigger by numerous subscribers in response to, for example, a subscriber poll to vote for the MVP of a particular sporting event, will not cause serious network access contention problems or overload a cable headend’s computer servers and potentially bring down the network.

C. Uncertainties Regarding ITV Business Models.

ITV providers and distributors continue to invest, research, and experiment to develop viable business models for ITV services. However, as one industry analyst has noted, “[n]ew TV

¹² See Michael Grebb, *Vendors Wary of ITV Inquiry*, Multichannel News, Feb. 26, 2001, at 1, 62 (“Gone are the days of a set-top duopoly, a few headend equipment providers, and flat-rate licensing deals with programmers. Now, there are dozens of hardware makers, headend equipment can mean 100 different things, and interactive advertising models are prompting new fights over revenue splits.”); Jupiter Communications, *ITV Platforms: Balancing Capability with Deployment*, Jupiter Vision Report, May 1, 2000, at iii (“No single technology will achieve near-term ubiquity, so ventures must undertake low-risk experiments, including simulated interactivity, twin-screen trials (simulcasting for Internet PCs and TV) and provide web-like content on a separate interactive channel.”).

¹³ See *Notice* at ¶ 11 (noting that “ATVEF A triggers are used to access ITV content from the Internet and ATVEF B triggers are used to access content transmitted along with the video signal and stored in the subscriber’s ITV set-top box”). See also CableLabs, *Interactive Broadband Technology Overview*, Aug. 4, 2000, at 15 (“CableLabs Report”) (noting that ATVEF was founded by 14 companies, including: CableLabs, Disney, CNN, DirecTV, Discovery, Intel, Liberate, Microsoft, NBC, AT&T, PBS, Sony, Tribune, and Warner Bros., and that the “ATVEF specification defines how to author HTML for enhanced TV applications that is independent of the network distribution and the platform used by the user”).

services require long lead times [due to] complex relationships between rights holders, programmers, new technologies and network operators.”¹⁴ Such relationships are emerging, but it still remains difficult to develop business arrangements that provide incentives for all the participants to work together to deploy new services.¹⁵

For example, ITV service providers and traditional advertisers have been unable to settle on a viable business model for ITV advertising. Although there is increasing interest about ITV in the advertising community, many fundamental questions remain unanswered.¹⁶ In particular, advertisers continue to grapple with measurement tools, techniques, and strategies for marketing in an interactive environment, as well as with consumer attitudes about interactive advertising. Advertisers are experimenting with new advertising models, such as e-mail ads, affiliate marketing, and Web-based promotions, to determine which are effective and justify added investment. Given this uncertainty, one industry analyst recently issued a conservative forecast for ITV advertising, noting that “platform fragmentation, advertisers’ confusion and resistance, and an unproven measurement system” will impede wide scale implementation of ITV advertising.¹⁷

ITV programmers also have serious concerns about ITV advertising. For example, some programmers worry that ITV advertising might cannibalize their traditional advertising revenues or divert attention from their core programming services. As one observer explained,

¹⁴ Peter Ausnit, Deutsche Bank Alex. Brown, *TV Technology*, Feb. 2001, at 30.

¹⁵ *See id.* at 32.

¹⁶ *See Interactive TV 2000*, *supra* note 8, at 82 (noting that “the ITV business has barely begun to tackle” issues such as “measurement, research discrepancies, declining click-through rates and uncertain consumer attitudes towards online advertising”).

¹⁷ Jupiter Research, *The DTV Manifesto*, Jupiter Concept Report, Jan. 31, 2001, at 2.

“[programmers] have the most to lose, since successful interactive ads will take viewers away from the linear channel experience -- potentially away from the next ad or program.”¹⁸ Thus, the success of certain ITV services, such as enhanced TV, hinges on the development of a business model that provides enough revenue to offset the potential loss of viewers of traditional advertising.

There is similar uncertainty surrounding the deployment of t-commerce, considered by some to be an important ITV application.¹⁹ It remains unclear, among other things, how t-commerce technology will work with traditional television programming, how copyright and royalty structures will apply to t-commerce-related content,²⁰ and how t-commerce orders will be managed and fulfilled.²¹ Nor is it clear whether TV viewers will embrace t-commerce. A recent study by TechTrends found that “the market for ‘t-commerce’ exists in theory, but . . . only one in six cable or satellite subscribers said they were willing to pay a monthly fee for such services.”²² Until these questions are answered, the viability of t-commerce as an ITV service is still in doubt.²³

¹⁸ Volle, *supra* note 11.

¹⁹ See Jupiter Research, *iTV Commerce Infrastructure Challenges*, Jupiter Concept Report, Jan. 10, 2001, at 1 (“Despite notable iTV commerce activity overseas, US carriers have generated nothing but trials.”).

²⁰ See Russell Shaw, *How Interactive Is TV?*, Broadcasting & Cable Online, Dec. 28, 2000 (quoting Tracy Swedlow, President, InteractiveTV Today), at http://www.tvinsite.com/index.asp?layout=print_page&publication=tv&webzine=tv&doc_id=&articleID=CA56759&pub_id=*.

²¹ See Peter Shapiro, *Web Lesson: Plan for ITV Orders Early*, Multichannel News, Feb. 12, 2001, at 53.

²² Michael Bartlett, *Study Cautions TV-Based E-Commerce Suppliers*, Newsbytes, Feb. 7, 2001, available at <http://www.newsbytes.com/news/01/161666.html>.

²³ See Tom Watson, *Watson & Chervokas: Who Gets Paid? Who Doesn't?*, Inside, Feb. 27, 2001 (noting that “even in advance of there being any spoils to divide, the various stops in the Hollywood supply chain are jockeying for payment”), available at http://www.inside.com/jcs/Story?article_id=24257&pod_id=13.

* * *

In short, to quote one industry executive: “Right now [ITV] is not a business, it’s an expense.”²⁴ In light of the overwhelming evidence regarding the nascent (and, indeed, to some extent nonexistent) and highly dynamic nature of ITV, as well as the fundamental uncertainties and risks surrounding consumer interest, technology, and viable business models, any Commission effort to propose, much less adopt, ITV regulations is decidedly premature.²⁵

II. REGULATION OF ITV IS UNNECESSARY: THERE ARE LOW BARRIERS TO ENTRY, AND A LARGE AND DIVERSE RANGE OF COMPANIES ARE RAPIDLY ENTERING THE ITV SPACE, THEREBY CREATING SIGNIFICANT COMPETITION AND INNOVATION.

A. There Is Significant Entry and Burgeoning Competition Among Companies Seeking to Develop and Deploy a Broad Range of ITV Services.

Numerous companies are investing substantial time and money in developing, deploying, and distributing ITV products, equipment, and services. As the chart on the following page demonstrates, those participants range from traditional video distributors and programmers, to providers of operating systems, middleware, and other software products, to broadcasters whose digital spectrum enables them to provide datacasting and multicasting ITV services, to consumer electronics manufacturers who are creating integrated/web-enabled TVs and game consoles.²⁶

²⁴ *Experts Say Interactive TV Profits Still Are Years Away*, Communications Daily, Mar. 1, 2001 (quoting Jack Tauper, Executive Vice President, Game Show Network).

²⁵ See Grebb, *supra* note 12, at 62 (quoting Liberate executive as saying that regulating ITV “would be like regulating the early days of wireless spectrum before there were cell phones,” and Commerce.TV executive as saying that “[g]overnment regulation is only going to hinder the evolution of the industry”).

²⁶ See, e.g., *Zenith and Trancast Announce Web-Enabled TVs*, ITVREPORT.COM, Dec. 18, 2000, at <http://www.itvreport.com/news/1200/121800zenith.htm> (noting development of the first Web-enabled TV set that “will allow viewers to access the web, check e-mail, read up-to-the-minute news and shop via TV, without having to buy an additional set-top box or other special hardware”); *Panasonic Unveils Web-Enabled TV*, ITVREPORT.COM, Jan. 8, 2001, at <http://www.itvreport.com/news/0101/010801telecruz.htm> (noting development of a 32-inch television set, which utilizes TeleCruz’s ITV platform to provide ITV features such as e-mail, chat capabilities, and Internet access by EarthLink).

LIST OF ITV COMPANIES

Cable Set Top Boxes	Content Networks	Personal TV	Video-On-Demand	Datacasting/Multicasting	Infrastructure Software
Grundig	ABC	EnReach Technology	Concurrent	Aircode	BlueZone Entertainment
Motorola	American Film Institute	Exatel Visual Systems	Demand Video	Clearband	Concero
Nokia	American Movie Classics	Jovio	Diva	CTV.Net	EnReach Technology
Pace	BBC	Metabyte Networks	Intertainer	Geocast	Fantastic Corporation
Panasonic	Bravo	Microsoft	MeTV Network	IBEAM	Lysis
Philips	Cable News Network	Motorola	nCube	Iblast	Macromedia
Pioneer	Cartoon Network	NDS	SeaChange Intl	SkyCache	MetaTV
Scientific Atlanta	CBS	Pace	TVN Entertainment	SkyStream	MGI Software
Sharp	CNBC	ReplayTV	USA Video Interactive	Wavexpress	Rachis Corporation
Sony	Corus Entertainment	Scientific Atlanta	Vivid Technology		SoftTV.net
Toshiba	C-SPAN	Singularis			Sunup Digital Systems
	Discovery Channel	TiVo			Telecruz
	Do It Yourself Network		T-Commerce Enablers	Interactive Games	Veil Interactive Technologies
Satellite Set Top Boxes	E! Entertainment Television	Satellite Subscription TV	ACTV	Artech Studios	Verigo Multimedia
EchoStar	ESPN	BellSouth	AdForce	Broadband Studios	
Hughes Network Systems	Fox Family Channel	BskyB	Authorize.Net	ConvergentDS	
Pace	Fox News	DirectTV	Better TV Technologies	FutureTV	
Philips	Fox Sports	EchoStar	Cell Interactive TV	Gold Pocket	Infrastructure Hardware
Samsung	Game Show Network	NRTC	Commerce.TV	Microsoft	Alcatel
Sony	Home and Garden Television	Pegasus	Commission Junction	Mixed Signals, Inc.	Barco
Thomson Consumer Electronics	Home Box Office		ExtendMedia, Inc.	NDS	Broadcom
	Independent Film Channel	Cable Subscription TV	FutureTV, Inc.	Nintendo	Broadlogic
Stand Alone Set Top Boxes	Internet Broadcasting Systems	AT&T	iXL	NTN Communications	Cable Labs
Neon Technologies	Liberty Media	Adelphia	MetaTV	Sega	Exatel Visual Systems
Regent Electronics Corporation	Lifetime	Cable and Wireless	Mindport	Spiderdance	Grass Valley Group
uniView Technologies	MSNBC	CableOne	Mixed Signals Technologies	Twin Entertainment	Infolibria
ZapMedia	MTV	CableVision	Pittard Sullivan	Two Way TV	Intel
	Much Music	Charter Communications	PowerTV		Motorola
Gaming Set Top Boxes	NBC	Classic Cable	Princeton Video Image	Conditional Access	Norpak
Indrema	Oxygen Media	Comcast	RespondTV	Boca Research	SGI
Microsoft	PBS	Cox	Screringly Different Enter.	CanalPlus	Skystream
Nintendo	Playboy Enterprises	Insight Communications	Source Media Inc.	MindPort	Tektronix
Sega	Romance Classics	Media One	Spiderdance	NDS	Telecruz
Sony	Sci-Fi Channel	NTL	SporTVision		Thomcast
	Showtime	Telewest	SpotNet	Infrastructure Delivery	Universal Electronics
Base Operating Systems	Starz! Encore	TimeWarner	Tribune Media	AccelerateTV	
Amiga	TBS		Wink Communications	Avid Technology	
Emperor Systems Software	The Food Network	Programming Guides		Chyron	
Microsoft	The Learning Channel	Gemstar Intl	TV Based Internet Access	Cisco Systems	
Pioneer	The Movie Channel	GIST	ICTV	ExtendMedia, Inc.	
PowerTV	TNT	iSurfTV	AOLTV	Harmonic	
QNX	TV Land	Metabyte Networks	EnReach Technology	ICTV	
Sony	USA Networks	NDS	Liberate	Innovatv	
Sun	VH1	Pioneer	LodgeNet	Intel	
Wind River Systems	Walt Disney Co.	Tribune Media	Microsoft	Intellocity	
	Warner Bros.	TV Guide	WorldGate	Mixed Signals, Inc.	
Middleware Operating Systems	WorldNow	Zap2it	Zapmedia	Navic Systems	
ICTV	ZDTV			Skystream	
CanalPlus				Terayon	
Intel				TVN Entertainment	
Liberate				Video Propulsion	
Microsoft				Wink Communications	
OpenTV					
PowerTV					
ThirdSpace					
WorldGate					

Source: Broadcasting & Cable Insert (Dec. 18, 2000)

Nor is this list comprehensive. ATVEF lists over 140 companies that have signed licenses to implement ATVEF content specifications.²⁷

Moreover, it is important to emphasize that there are very low barriers to entry to become an ITV player. For example, any content developer with a good idea and some basic software tools that can be obtained for little or no cost can develop very sophisticated and compelling ITV applications. In fact, major ITV software vendors, such as Microsoft, WorldGate, Liberate, Sun Microsystems, and OpenTV, have developed partnership programs to assist content developers.

Barriers to entry are particularly low in the cable industry. CableLabs is taking steps to facilitate the development and deployment of ITV applications through its “middleware” initiative.²⁸ The initiative is designed to serve as a “road map” for content providers to build interactive applications that interoperate with broadband cable networks and OpenCable-compliant set-tops and digital televisions.²⁹

²⁷ *ATVEF Directory*, at http://www.atvef.com/info/member_directory.html. See also Stephen & Scafidi, *supra* note 6, at 3 (“Another key driver of the expected strong rollout of interactive services is the growing roster of vendors, including a good number of industry heavyweights, backing the idea.”).

²⁸ See CableLabs Report, *supra* note 13, at 7 (noting that middleware initiative seeks to specify an interactive broadband service platform that, among other things: (1) takes advantage of “open” computing and network architectures, wherever possible, to minimize costs and maximize the ability to include new technologies as they become available and affordable; (2) provides for service identification and portability that allows the cable operator to inform consumer devices of the services offered and the technical interoperability required to support a core set of interactive services across all OpenCable systems; and (3) presents a migration path from uni-directional to bi-directional networks and from broadcast to real-time interactive applications).

²⁹ See *CableFAX Daily*, March 6, 2001, at 2 (quoting Time Warner Cable CEO Joseph Collins as saying that the middleware specification “puts cable on a road to welcome set-top software from companies located around the world,” and also “provides for a smooth migration for 1st generation interactive services being deployed today onto this even more capable [middleware] platform”).

B. There Is Significant Entry and Burgeoning Competition Among Companies Seeking to Provide ITV Distribution.

As the Commission acknowledged in the *Notice*, ITV services are currently available on a wide range of distribution platforms, including cable, DBS, and terrestrial broadcast television.³⁰ Indeed, companies are developing the software and hardware necessary to deliver ITV over these, and other, platforms.³¹ As the diagram on the following page illustrates, for example, Liberate Technologies is marketing ITV software solutions for satellite, DSL, cable, and game consoles.

Even in these early stages of ITV development, there is every reason to believe, and no evidence to the contrary, that the business will be characterized by significant competition and innovation among distributors of ITV services.

1. Cable operators are pursuing ITV.

AT&T and other cable operators are conducting extensive trials involving a broad range of ITV services. For example, AT&T has launched VOD trials with Diva in Atlanta and Los Angeles, and is planning VOD launches in Pittsburgh and suburban San Francisco. AT&T has also just completed a joint marketing trial with ReplayTV's PVR services in an effort to gauge customer interest in such services and determine whether customers' satisfaction level in cable is increased if these services are made available.³²

³⁰ See *Notice* at ¶ 18 (noting that ITV services are currently available from DirecTV, Echostar, and terrestrial broadcasters).

³¹ See Press Release, *Broadwing Pioneers DSL Delivery of Broadband Entertainment-on-Demand to Consumer TVs*, xDSL.com (Oct. 27, 2000), available at <http://www.xdsl.com/newsreleases/xDSL/19026.asp>.

³² ReplayTV was recently purchased by SONICblue, Inc. Press Release, ReplayTV, Inc., *SONICblue Announces Plan to Acquire ReplayTV*, Feb. 1, 2001, available at <http://www.replaytv.com/news/pressrelease35.htm>.

THERE ARE MULTIPLE MVPD DISTRIBUTION PATHS TO ITV

Liberate Connect
at a satellite operator delivers enhanced
TV, integrates web and TV media, and
manages subscriber services.

Liberate TV Navigator
running on a digital cable set-top box
displays electronic programming
guides and lets users exchange e-
mails, order movies on demand, and
access a variety of Web-based
services.

Liberate Connect
at the local cable operator head-end delivers
enhanced TV, interactive advertising, e-
commerce, media-on-demand, and a variety of
interactive digital services. Liberate Connect also
integrates with existing billing and provisioning
systems.

Liberate Connect
at a telecommunications company
manages broadband telco set-top
boxes that can deliver video-on-
demand, enhanced TV, online
gaming, and advanced telephony
features such as caller ID.

Liberate TV Navigator
running on a digital satellite receiver enables
viewers to use electronic programming guides,
order movies, play interactive games, exchange e-
mails, check local weather, and book a holiday --
all on their TV sets.

Liberate TV Navigator
running on a DSL-connected
set-top box lets viewers
exchange e-mails, order
movies-on-demand, and use
advanced telephony features
such as visual caller ID -- all on
their TV sets.

Liberate Connect
running on a game console
links players to online gaming,
software update, reviews, and
strategy guides.

INTERNET

In addition, AT&T has launched trials of ITV services in its Waterloo and Cedar Falls, Iowa systems, and plans to launch ITV services later this year in Tacoma, Washington. For these trials, AT&T is using Motorola's DCT2000 set-top box, which contains WorldGate software. Services available through the WorldGate ITV platform include e-mail, Internet access, interactive enhancements to video programming streams, and advertising. AT&T has also worked with both Microsoft and Liberate to develop ITV software for incorporation into advanced set-top boxes, and has sponsored ITV content developers' conferences, OpenCable conferences, and other educational efforts to help promote further innovation in the ITV space. AT&T continues to evaluate other ITV technologies developed by a wide range of companies with which AT&T is not affiliated.

Other cable operators are also pursuing ITV trials and limited deployments.³³ For example, Cox Communications announced in June 2000 that it would be testing its interactive TV service in employees' homes in San Diego,³⁴ and is now offering VOD service in San Diego.³⁵ Likewise, Comcast has scheduled its rollout of VOD for 2001 and other ITV services for 2002.³⁶ In addition, Time Warner Cable launched its VOD service in Austin, Texas in June

³³ For a thorough report on cable operators' ITV efforts as of July 10, 2000, see Ken Kerschbaumer, *Interactive Television: Fulfilling the Promise*, Broadcasting & Cable, July 10, 2000, at 22-34.

³⁴ See Rebecca Cantwell, *Interactive TV Takes Variety of Shapes*, Inter@ctive Week, July 9, 2000, available at <http://www.zdnet.com/intweek/stories/news/0,4164,2594954,00.html>.

³⁵ See generally Cox Communications, *Press Room*, at <http://www.cox.com/PressRoom/> (last visited Feb. 14, 2001).

³⁶ See Simon Applebaum, *Everybody's Getting into the Inter-Act*, Cablevision, Oct. 30, 2000, at 8 (reporting that "Comcast will 'put the ITV infrastructure together' next year . . . with a mass rollout set for 2002"); Kris Hudson, *AT&T Rolls Out Interactive TV*, Denver Post, Nov. 7, 2000.

2000.³⁷ These efforts demonstrate that the cable industry is committed to exploring ITV opportunities and is partnering with a range of providers -- both affiliated and unaffiliated -- to develop new and innovative services, but is moving to broad-based deployments on an incremental basis.

2. Satellite distributors are offering a broad range of ITV services to viewers throughout the world.

The *Notice* is incorrect in assuming that the cable distribution platform has inherent advantages that will allow it to dominate ITV distribution in the future.³⁸ In fact, that assumption is directly at odds with marketplace evidence that satellite MVPDs are aggressively developing and deploying ITV set-top boxes and services in the United States -- and have a proven track record of providing such services in Europe -- and analysts' widespread bullishness about ITV services over the DBS platform.

EchoStar and DirecTV have vigorously pursued the development and deployment of ITV services.³⁹ According to several industry and financial analysts, by year end, satellite television providers will "have beaten cable providers to the punch by providing advanced interactive capabilities to [their] subscribers."⁴⁰ Moreover, it is estimated that by the end of 2003 satellite

³⁷ See Cantwell, *supra* note 34.

³⁸ See *Notice* at ¶ 20.

³⁹ See Goldman Sachs, *Satellite Communications: DBS Operators*, Goldman Sachs Global Equity Research, Dec. 18, 2000, at 29-30 (summarizing DirecTV's and Echostar's interactive and DVR service offerings).

⁴⁰ *Interactive TV 2000*, *supra* note 8, at 51. See also Goldman Sachs, *supra* note 39, at 28 ("We believe DBS operators will beat cable to the punch as they aggressively roll out interactive and personal video recording (PVR) services over the next 3-6 months and beyond.").

television providers will have 9.3 million interactive customers, compared to 7.8 million for the cable industry.⁴¹

EchoStar and DirecTV currently offer a wide range of ITV products. EchoStar, for example, is marketing its DISHPlayer 500, an advanced set-top box that includes a DVR, internal modem, and Microsoft's WebTV Plus Interactive software. In January, EchoStar unveiled a new set-top box that can provide on-demand news and information services, TV commerce as well as personal television and digital recording.⁴² DirecTV currently offers:

- "DIRECTV INTERACTIVE," a free ITV service using Wink technology that allows subscribers to order free product samples, shop for merchandise, and obtain up-to-the-minute sports scores, news headlines, and weather forecasts;
- "DirecTV with TiVo," an ITV service that integrates DirecTV's programming with TiVo's Personal TV Service allowing subscribers to digitally record, pause, instantly replay, slow motion, rewind, and fast forward a live DirecTV broadcast;⁴³ and
- "DirecTV with Ultimate TV," an ITV service that, in addition to the features of "DirecTV with TiVo," provides dual tuners, Picture-in-Picture, web access, -e-mail, and the ability to interact with ITV content.⁴⁴

In addition, DirecTV advertises that subscribers will soon be able to obtain "DirecTV with AOLTV," an ITV service that provides subscribers with AOL's online services such as e-mail, chat, buddy lists, instant messaging, and You've Got Pictures.⁴⁵ DirecTV has also

⁴¹ See *Interactive TV 2000*, *supra* note 8, at 51 (citing findings made by the Carmel Group).

⁴² See *EchoStar's Advanced Satellite Receiver Integrates Digital Video Recording and Interactive TV*, ITVREPORT.COM, Jan. 9, 2001, at <http://www.itvreport.com/news/0101/010901echostar.htm>.

⁴³ See DirecTV, *DIRECTV Receiving Equipment*, at <http://www.directv.com/about/abouttablepages/0,1271,77,00.html> (last visited Feb. 9, 2001).

⁴⁴ See ING Barings, *Satellite Communications: The Impact of Interactive TV on DBS*, Feb. 23, 2001, at 9.

⁴⁵ See DirecTV, *About DirecTV*, at <http://www.directv.com/about/abouttablepages/0,1271,322,00..html>.

announced that it will have available by 2002 an integrated set-top box that will allow it to provide all of its ITV service offerings -- Wink, AOLTV, UltimateTV, TiVo and WebTV -- from the same box.⁴⁶

Moreover, DBS providers also appear to have certain advantages among potential customers of ITV services. A recent TechTrends study, for example, "identified satellite television service subscription to be one of the prime characteristics of consumers who are most interested in interactive TV set-top boxes."⁴⁷ In an earlier study, TechTrends predicted that satellite TV subscribers will pay more for ITV services than cable subscribers and "found that only 30% of respondents [to its survey] would be willing to pay a cable operator for ITV service, while 70% of these consumers would sign up and pay an extra \$20 per month for the same service through a satellite provider."⁴⁸

These attractive ITV attributes of DBS providers have prompted industry analysts to upgrade their ratings for DBS stocks. The Yankee Group finds that "interactive TV is now becoming a reality to DBS subscribers" and that "[i]n addition to DVR capabilities, DBS subscribers are interested in interactive TV applications that they can understand and that

⁴⁶ See *DirecTV All-In-One Receiver*, Consumer Electronics, Jan. 29, 2001, available at 2001 WL 7871871. See also Geraldine Fabrikant & Seth Schiesel, *Satellite vs. Cable: A Rivalry Beyond TV*, N.Y. Times, Feb. 19, 2001, available at <http://www.nytimes.com/2001/02/19/business/19BIRD.html> (noting that with the pending acquisition of Telocity, Inc., a DSL provider, by DirecTV's parent company, Hughes Electronics, "the companies hope to offer a single set-top box that provides satellite decoding and also functions as a DSL modem").

⁴⁷ *EchoStar's Advanced Satellite Receiver Integrates Digital Video Recording and Interactive TV*, *supra* note 42 (citing TechTrends, Inc., *Cable vs. Satellite Subscribers: An Examination of Interactive TV Demand and TV-Internet Usage* (Jan. 2001)).

⁴⁸ *TechTrends' Survey Shows Consumers Prefer DBS Over Cable for ITV*, ITVREPORT.COM, June 20, 2000, at <http://www.itvreport.com/news/0600/062000techtrends.htm>.

enhance their viewing experience.”⁴⁹ Goldman Sachs sees interactive “services adding substantially to DBS’s value proposition to consumers, which will make their product more competitive with cable’s.”⁵⁰ It further points out that DBS operators are partnering with telco and DSL companies to bundle their services to provide “a formidable offering compared to cable’s bundled offering.”⁵¹ Going forward, Merrill Lynch believes “that the level of interactivity placed into the future [DBS] set top boxes will be more powerful than [it] originally anticipated, drawing more multichannel customers toward DBS than previously forecasted.”⁵²

Finally, in Western Europe, which is well ahead of the United States in ITV deployments (see chart below), *satellite technology, not cable*, is leading the ITV charge.⁵³

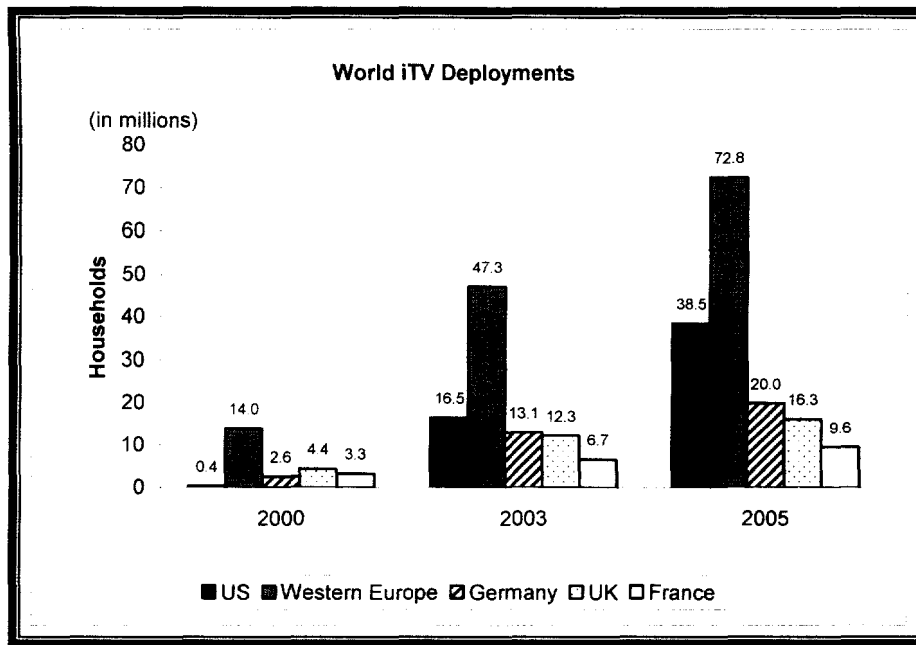
⁴⁹ Ryan Jones, The Yankee Group, *Direct Broadcast Satellite: Growth in New Directions*, Media & Entertainment Strategies, Sept. 2000, at 9.

⁵⁰ Goldman Sachs, *supra* note 39, at 28, 30 (also noting that DBS operators have “strong partners that offer technological expertise, content, and marketing,” a high-speed return path via satellite that will not tie up a subscriber’s phone line, and a substantial opportunity to market their product in rural areas).

⁵¹ *Id.* at 31.

⁵² Merrill Lynch, *Direct Broadcast Satellite: TV Interactivity Produces Three Increases for 2001 -- Subscribers, Price Objectives and Acquisition Costs*, Sept. 26, 2000, at 2.

⁵³ See Jupiter Communications, *supra* note 11, at 1-2 (noting that “the overall European market is much bigger than that in the US”); *Interactive TV 2000*, *supra* note 8, 74-75 (describing BSkyB’s deployment of ITV services in the U.K., Canal Satellite’s and Television Par Satellite’s deployments in France, and projecting numbers for other European countries); Jupiter Communications, *Television: Interactive TV Projections*, Jupiter Analyst Report, Feb. 14, 2000, at 7 (stating that “European iTV [is] ahead of US deployment” and noting that “satellite operators were the first to launch iTV services” and 32% of satellite TV households in Europe are digital and capable of receiving such services); Reuters, *OpenTV Looks to Cable, ADSL*, N.Y. Times on the Web, Feb. 13, 2001 (quoting James Ackerman, President, OpenTV, as saying: “If you look across the world, so far it’s satellite that leads the deployment of interactive TV”), available at <http://www.nytimes.com/reuters/technology/tech-opentv-dc.html>. See also *DBS Conference Notebook*, Communications Daily, Feb. 2, 2001, at 3-4.



Source: Jupiter Interactive Television Model, 12/99 (NOTE: The figures for Western Europe are aggregate figures that include households in Germany, the UK, France, and other countries.)
 © 2000 Jupiter Communications

For example, in the United Kingdom -- “Europe’s interactive-TV leader” -- satellite is the predominant method of delivering ITV services.⁵⁴ As the U.K.’s Office of Telecommunications (“Of tel”) reports, as of July 2000, over 3.2 million U.K. subscribers “claim[ed] to have interactive services such as home shopping, and [1.8 million] claim[ed] to have e-mail and Internet facilities.”⁵⁵ As Tony Ball, CEO of BskyB, the leading provider of ITV services in the U.K., has said: “We are continuing to innovate with the launch of new interactive services that

⁵⁴ See Echikson, *supra* note 2; Office of Telecomm., *Summary of Of tel Residential Survey Q1 July 2000*, Aug. 2000 (“Q1 Report”), available at <http://www.of tel.gov.uk/cmu/research/digi0800.htm>.

⁵⁵ Q1 Report, *supra* note 54. See also Office of Telecomm., *Summary of Of tel Residential Survey Q2 August 2000*, Nov. 2000, available at <http://www.of tel.gov.uk/cmu/research/digi1000.htm>.

will increase our revenues and maintain low churn. Sky customers now benefit from the world's most developed interactive television service.”⁵⁶

It is impossible to square these facts with the assumption in the *Notice* that cable operators will have unchallenged market power in the ITV area such that regulation of cable ITV services may be necessary. To the contrary, the evidence shows that satellite providers will be effective competitors in the ITV business.

3. Other competitive ITV distribution platforms are also emerging.

The *Notice* states that “the DSL family of technologies does not support sufficient downstream bandwidth to provide the full range of expected ITV services, including multi-channel high quality video transmission.”⁵⁷ However, telephone companies, DSL providers, and industry and financial analysts disagree. Whether telephone companies and other DSL providers choose to deploy ADSL, which provides downstream rates between 1-8 Mbps and typically streams content to subscribers one channel at a time, or VDSL, which provides downstream rates between 8-26 Mbps and can stream multiple video signals at one time, both DSL technologies will allow them to provide competitive ITV services. According to an industry executive: “DSL technology is a highly effective way for telecommunications companies to rapidly expand the

⁵⁶ *BSkyB Hits 5 Million Mark, Thanks to SkyDigital*, SkyReport, Feb. 8, 2001 (reporting that SkyDigital, BSkyB’s U.K. satellite provider had 4.7 million subscribers at the end of 2000), *available at* <http://www.skyreport.com/skyreport/feb2001/020801.htm> - one. The success of ITV services in other countries has also been achieved over satellite networks. In France, for example, “Canal+ was the world’s first major broadcaster to launch a digital interactive television service back in 1996” and currently dominates the French ITV market by providing ITV services via satellite. *CanalSatellite’s Bruno Delecour: “Our Digital Customers Spend Much More,”* Business Week (Int’l Edition), Feb. 19, 2001, *available at* <http://www.businessweek.com/2001/0108/b3720034.htm>. In Canada, Bell ExpressVu, the leading direct-to-home satellite company has followed Europe’s lead by announcing a partnership with OpenTV to introduce new ITV services to its 725,000 subscribers. Press Release, OpenTV, *OpenTV Expands North American Interactive TV Commitments with Bell ExpressVu in Canada* (Jan. 24, 2001), *available at* <http://www.opentv.com/news/2001/012401a.html>.

⁵⁷ *Notice* at ¶ 19.

capability of their established networks, enabling them *to provide high quality interactive television services* challenging traditional network operators in the delivery of home entertainment services.”⁵⁸

In a recent report analyzing the future of the video over DSL market, The Yankee Group concluded that “leading-edge telcos,” in an effort to retain market share and increase ancillary revenues, “are concentrating on delivering video-centric full service networks.”⁵⁹ To do so, The Yankee Group predicts that “most will turn to video-over-twisted pair in either asymmetrical digital subscriber line (ADSL) or very-high bitrate digital subscriber line (VDSL).”⁶⁰ Of particular interest, The Yankee Group notes that video over DSL “*could make inroads . . . in homes that are eager to adopt the newest video technologies such as interactive TV (ITV) and video-on-demand (VOD).*”⁶¹ As a result, video over DSL subscribers are expected to grow from the current 65,000 to over 7 million by 2005.⁶²

⁵⁸ *Kingston Communications Signs Up for Pace's Digital Set-Tops*, ITV REPORT.COM, Sept. 6, 2000 (quoting Paul Ashmore, Sales Director, Pace Micro) (emphasis added), available at <http://www.itvreport.com/news/0900/0906pace.htm>.

⁵⁹ Ryan Jones, Yankee Group, *Twisted-Pair Video Converges on Telcos*, Media & Entertainment Strategies, Nov. 2000, at 1.

⁶⁰ *Id.*

⁶¹ *Id.* at 2 (emphasis added).

⁶² *See id.* at 2, 15. Cahners In-Stat Group (“Cahners”) has a similar optimistic prediction for video over DSL. *See* Michelle Abraham, Cahners In-Stat Group, *Video Over DSL: Beyond the Trial Phase*, Feb. 2000, at 22-23. It concludes that although “few telcos are aggressively deploying video over DSL, all are aware that it is necessary to their survival” and that video over DSL “comes out ahead” of cable because “consumers will need only one set top box for the home instead of one per TV,” DSL is more secure than cable, and telcos will be able to bundle their service offerings. *Id.* at 22, 27. Moreover, Cahners predicts that “about one-third of customers who have access to video over DSL services will sign up” for the service and that by 2005 there will be 7,143,000 video over DSL subscribers in North America yielding \$3,278,000,000 in revenue. *Id.* at 23, 26.

Marketplace developments lend support to these conclusions.⁶³ For example, Qwest now provides VDSL service to 50,000 customers in Phoenix.⁶⁴ Likewise, Blockbuster has conducted VOD trials using DSL technology in four cities, and is continuing to explore such a delivery platform going forward for the service.⁶⁵

In addition to satellite and DSL providers, numerous other video distribution providers are or will soon be entering the ITV market as well. For example, broadcasters are pursuing opportunities to use their digital spectrum to deliver enhanced television services.⁶⁶ The Public Broadcasting Service (“PBS”) recently announced a partnership with Triveni Digital, a developer of “equipment for management of enhanced data and metadata in digital broadcasting streams,” to conduct trials of PBS enhanced programming.⁶⁷ PBS’s trials will be the “first digital terrestrial (over-the-air) broadcast of interactive TV enhancements using the [ATVEF] Type B specification.”⁶⁸ Thus, because “ATVEF Transport B allows the enhanced content to be

⁶³ *Kingston Communications Signs Up for Pace’s Digital Set-Tops*, *supra* note 58.

⁶⁴ Jones, *supra* note 59, at 12.

⁶⁵ See Press Release, Blockbuster, Inc., *Blockbuster Inc. to Continue to Develop Entertainment On-Demand Service; Terminates Exclusive Services Agreement with Enron* (Mar. 9, 2001) (describing status of VOD trials and quoting Blockbuster executive as saying that Blockbuster’s plan is “to remain technology agnostic and open to all sorts of alliances”). Earlier this year, Motorola announced that it had “started commercial deployment in the North American market of its first multi-functional DSL-based set-top box.” *Motorola Introduces DSL-Based Set-Top Box*, ITVREPORT.COM, Jan. 4, 2001, at <http://www.itvreport.com/news/0101/010401motorola.htm>.

⁶⁶ The Strategis Group, *Interactive TV: Platforms, Content and Services*, Sept. 2000, at 15 (“Digital compression technologies will allow terrestrial broadcasters to compete with multichannel operators such as cable companies and satellite service providers. The transition from analog to digital enables broadcasters to offer additional channels within their allocated spectrum, or more importantly, enhanced TV services that can be broadcast along with the video signal.”).

⁶⁷ Press Release, *PBS and Triveni Digital Announce Interactive Television Trials with Scientific American Frontiers* (Feb. 28, 2001), available at <http://www.pbs.org/insidepbs/news/triveni.html>.

⁶⁸ *Id.* See also Notice at ¶ 11 (noting that “ATVEF B triggers are used to access content transmitted along with the video signal and stored in the subscriber’s ITV set-top box”).

broadcast with the program, rather than requiring a connection to the Internet,”⁶⁹ no return path will be needed to access interactive content.⁷⁰

Another ITV distribution method seeks to take advantage of the millions of people who currently use TVs and computers simultaneously.⁷¹ For example, ACTV has developed its HyperTV software to exploit the “two-box audience,” aiming to deliver Web content that enriches the TV show that a viewer is watching while he or she is using the computer.⁷² Several programmers are already offering dual-screen ITV programs. For example, ABC allows viewers of “Who Wants to be a Millionaire” to play along with the program online. The Discovery Channel has also employed the duel screen model for recent special events, including their coverage of the Eco-Challenge adventure race and their special raising of a frozen woolly mammoth from the Siberian tundra.⁷³

Computer-based platforms are yet another method for delivering ITV content.⁷⁴ Sega and Pace, for example, recently unveiled a set top box for satellite, cable, xDSL, and digital

⁶⁹ See *PBS and Triveni Digital Announce Interactive Television Trials with Scientific American Frontiers*, *supra* note 67.

⁷⁰ Datacasting companies also are developing technologies to deliver interactive content using broadcasters’ digital television signals. See, e.g., *Interactive TV 2000*, *supra* note 8, at 21 (noting that the leading datacaster, iBlast, “will use broadcasters’ digital spectrum and wireless antennas to provide over-the-air high-speed internet access and content services at what it claims are ‘guaranteed speeds’ of more than five times that of DSL or cable modems”).

⁷¹ See Cantwell, *supra* note 34; see also Ausnit, *supra* note 14, at 31. “According to a recent study conducted by Dataquest, 44 million people are simultaneously using the Internet and watching television today.” ACTV, Inc., *HyperTV*, at <http://www.actv.com/flash/main.html> (last visited Mar. 19, 2001).

⁷² Cantwell, *supra* note 34.

⁷³ See The Strategis Group, *supra* note 2, at 32.

⁷⁴ See Cliff Edwards, *Promise, Pitfalls of Interactive TV*, AP, Nov. 13, 2000.

terrestrial operators that incorporates Sega's Dreamcast game console capabilities.⁷⁵ Likewise, EarthLink, the U.S.'s second largest ISP, has partnered with platform provider Telecruz to provide Internet access service for ITV-enabled TVs manufactured by Panasonic.⁷⁶

* * *

In short, there is no evidence to suggest that cable will be the dominant ITV player justifying government regulation. In fact, all the evidence points to a highly competitive ITV environment where regulation would be entirely unnecessary.

C. The Presumption in the *Notice* that Cable's Return Path Will Afford Cable a Significant Advantage in the Provision of ITV Services is Incorrect.

The *Notice* invites comment on "whether the current lack of a satisfactory upstream channel for DBS and digital terrestrial television and the bandwidth constraints of DSL leaves the cable platform with significant advantages in providing ITV services."⁷⁷ AT&T disputes the *Notice*'s presumption of cable market power, both as to the importance of "return path" functionality in the delivery of ITV services and as to any competitive advantage cable may enjoy going-forward because of such functionality.

As an initial matter, many ITV services already exist and work well even without the use of a return path. For example, the EPGs used in cable and DBS systems today -- including cable systems that use advanced set-top boxes to deliver digital service -- do not require use of a return path. Program guide information may be delivered over the cable system or downloaded

⁷⁵ Press Release, Pace Micro Technology, *Pace and Sega Announce a World First in Digital TV Technology* (Jan. 29, 2001), available at <http://www.pace.co.uk/content.asp?id=442&template=0>.

⁷⁶ *Earthlink and Telecruz Partner to Provide TV-Based Internet Access*, ITVREPORT.COM, Feb. 14, 2001, at <http://www.itvreport.com/news/0201/021401telecruz.htm>.

⁷⁷ *Notice* at ¶ 20.

automatically to the customer's set-top box. Similarly, games and movies, including movies that are part of a VOD service, can be downloaded to the user's set-top box so that any interactivity is simply then between the user's remote control and the set-top with no need to send signals upstream. Alternatively, rather than simultaneous interactivity, certain ITV services can be based on the network polling users' set-top boxes periodically and collecting information -- such as t-commerce ordering data -- at a later time when the network is less busy.⁷⁸ AT&T is currently working on several projects that involve ITV-type services that are based on a download of information to the set-top box and interaction only between the user's remote and the box, such as the customized display of local weather and local sports information.

Moreover, to the extent that a return path is required for certain ITV services, such as DVRs, e-mail, VOD, and certain games, a *narrowband* return path is often sufficient for the service to operate effectively. In Europe, for example, ITV providers, most of whom use satellite technology, utilize a narrowband return path for their most popular ITV services.⁷⁹ Thus, any claim that cable has a technological advantage due to its high-speed return path is questionable at best.

Even assuming that high-speed, real-time, two-way bandwidth were required for certain ITV services, the *Notice* is incorrect in presuming that cable will have any technological advantage over other MVPDs. The fact is that DBS and other competitors have or will soon deploy two-way, high-speed connections as well. For example, the current UltimateTV/DirecTV

⁷⁸ See Leslie Ellis, *The Wonderful Things About Triggers*, Multichannel News, Feb. 5, 2001, at 42.

⁷⁹ See, e.g., *BSkyB Hits 5 Million Mark, Thanks to Sky Digital*, *supra* note 56 ("Satellite delivery is reliable and easy to install. Our return path is by regular telephone, and the speed of this return path is satisfactory. *Most of the broadband stuff can be downloaded over satellite. We don't need broadband as the return.*" (statement of Tony Ball, CEO, BSkyB) (emphasis added)).

set-top box incorporates a 56 Kbps modem, but an UltimateTV software upgrade which customers should automatically receive this summer will allow a LAN or DSL connection to supply the Internet connectivity needed for browsing, e-mail, and interactive features.⁸⁰ Nor are satellite providers' high-speed return paths limited to DSL connections. For example, Starband, a joint venture of Microsoft Corp., EchoStar, Gilat Satellite Networks Ltd., and ING Furman Selz Investments, currently offers two-way, high-speed satellite-based Internet service through EchoStar's DISH Network. Microsoft has agreed to provide Internet access and retail distribution for the service through approximately 7,200 RadioShack stores.⁸¹ Further, DBS providers have developed technological solutions to address latency concerns (*i.e.*, delays associated with sending data to satellites) with its two-way service.⁸² Such solutions can include, for example, the use of local data centers, caching servers, and local storage of more information in the set-top box in order to speed the response time for ITV applications.

⁸⁰ See David Coursey, *UltimateTV? Maybe Not . . . But It's Close*, ZDNet, Jan. 7, 2001, available at <http://www.zdnet.com/filters/printerfriendly/0,6061,2671978-107,00.html>. Likewise, BCE, the owner of Bell ExpressVu, Canada's leading direct-to-home satellite service, recently unveiled plans to integrate its Sympatico high-speed DSL Internet access with its satellite television services in a "ComboBox." Reuters, *BCE Set to Marry High-Speed Internet, Satellite TV*, N.Y. Times, Feb. 5, 2001, available at <http://www.nytimes.com/reuters/technology/tech-telecoms-bce-dc.html> (noting ComboBox will act as an information and entertainment gateway in addition to allowing consumers to store videos, games, news and information from the satellite or Internet).

⁸¹ See *Gilat-To-Home Leases 14 Ku-band Transponders on Loral Skynet Telstar 7*, Satellite Today, Sept. 5, 2000. Two-way, high-speed satellite service will also be provided by WildBlue, Hughes Spaceway, and Pegasus Express.

⁸² See, e.g., Monica Hogan, *DBS Turns Eye Towards Two-Way Data Services*, Multichannel News, Feb. 12, 2001, at 33 (noting that Hughes Network Systems "has developed technology to minimize the latency and give users a quicker response time").

Indeed, as noted above, *satellite*, not *cable*, systems are the dominant ITV platform in Europe and elsewhere, a fact that undermines any suggestion that cable's return path will afford cable operators a unique and insurmountable technological advantage in the ITV space.⁸³

Finally, technical constraints on the upstream capacity of cable systems further undercut the *Notice*'s presumption of cable dominance. The cable return path, which is standardized as the spectrum between 5 MHz and 40 MHz, is typically shared among 500 to 2,000 users, depending on node size, for multiple customer services, including high-speed data and telephony services, as well as system management functions, such as out-of-band signaling, network diagnostics, and SNMP monitoring.⁸⁴ As a result, the available spectrum in the cable return path is relatively limited. That is why AT&T and other cable operators remain interested in designing efficient ITV applications that minimize the demands on the return path, such as by relying on -- where cost-effective and consistent with consumer demands -- a narrowband return path or the download and processing of ITV information at the set-top box.

In the end, the *Notice*'s presumption that the cable return path gives cable operators an advantage over other ITV distribution platforms is belied by marketplace evidence.

⁸³ It is important to note that no cable set-top boxes that have been deployed in the field today contain a modem. Consequently, cable customers -- assuming they are customers of a two-way cable system -- can only interact using the "out of band" path, which has a limited bandwidth of 1 to 2 megabits or less.

⁸⁴ As a technical matter, power from the home is needed to drive reverse amplifiers for upstream services, and power limitations require the upstream channel to remain in the 5-40 MHz frequency band. See AT&T Comments, filed in GN Dkt. No. 00-185, at 54 (Dec. 1, 2000) ("AT&T Forced Access Comments") (chart describing spectrum constraints).

D. The Commission's Presumption that Cable Operators Have the Incentive to Discriminate Against Unaffiliated ITV Content Is Also Incorrect.

The *Notice* is also incorrect in presuming that “cable operators are likely to have the incentive . . . to favor affiliated ITV service providers over non-affiliated ones.”⁸⁵ In fact, AT&T and other cable operators have every incentive to provide their customers with as broad an array of ITV content, both affiliated and unaffiliated, as possible. As noted above, AT&T has sponsored ITV content development conferences that are open to affiliated and unaffiliated providers. Such an approach is consistent with AT&T's business philosophy of providing its customers with the highest-quality content, whether such content is developed by an affiliated or an unaffiliated company.

Moreover, as shown above, it is clear that consumers will have a range of choices for competitive ITV distribution platforms, including, among others, cable, DBS, and DSL. In such a competitive environment, cable operators will have strong market incentives to afford their consumers the widest possible selection of features, functions, and content, or risk losing those customers to rivals.⁸⁶ As Chairman Powell recently noted relative to Internet-related services, “[t]he value proposition, in so many ways, of Internet is being able to get to anything,” and as a result, “the market incentives are powerfully tilted toward an open-access model.”⁸⁷

⁸⁵ *Notice* at ¶ 21.

⁸⁶ Indeed, an ongoing challenge for cable operators will likely be “[a]ssembling enough content to satisfy the consumer.” Ausnit, *supra* note 14, at 24 (“Since the introduction of DBS, TV delivery competition has become very real. There are a number of new technologies that promise to make this competition more intense. Ultimately these companies will have to differentiate their networks and develop new revenue streams to avoid commodity pricing delivering TV.”).

⁸⁷ Daily Report to Executives, *Powell: FCC Must Be More Responsive as Convergence Issues Call*, Jan. 30, 2001, at 5 (quoting FCC Chairman Michael K. Powell).

E. Regulation of ITV Is Unnecessary Because ITV Players Are Reaching Favorable Commercial Agreements Without Government Intervention.

The *Notice*'s presumption that cable operators have the incentive to discriminate against unaffiliated content providers is not only wrong as a theoretical matter, it is also wrong as a matter of fact. Simply stated, unaffiliated ITV content and service providers have had considerable success negotiating mutually beneficial commercial arrangements with cable operators, DBS, and other distribution services. As noted above, for example, AT&T has pursued arrangements with many unaffiliated providers.⁸⁸

Leading ITV content and service providers have had success in striking agreements across a range of distribution platforms. Wink, for example, has developed business relationships with AT&T, Microsoft, PowerTV, Liberate, SourceMedia, Canal+, OpenTV, and Hughes Network Systems,⁸⁹ and has also entered into contractual agreements with ITV distribution providers, including DirecTV, EchoStar, Cox, Time Warner, Charter, Adelphia, Comcast, and Insight.⁹⁰ In addition, companies with a focus on t-commerce services, such as ACTV, eCity, and RespondTV, have announced partnerships with AT&T Broadband, Microsoft, OpenTV, Liberate, WorldGate, and PowerTV.⁹¹ In fact, RespondTV claims it has "partnered

⁸⁸ In particular, AT&T is currently in discussions and various stages of trials with, among others, Microsoft, Liberate, and WorldGate. See, e.g., *AT&T and Liberate Start Interactive TV Pilot*, ITVREPORT.COM, Sept. 22, 2000, at <http://www.itvreport.com/news/0900/092200attliberate.htm>; *AT&T and WorldGate Announce Interactive TV Service in Three Cities*, ITVREPORT.COM, Nov. 7, 2000, at <http://www.itvreport.com/news/1100/110700att.htm> (last visited Feb. 27, 2001).

⁸⁹ See *Wink's Strategic Relationships*, at <http://www.wink.com/contents/partners3.shtml> (last visited Mar. 15, 2001).

⁹⁰ See *id.*

⁹¹ See *Microsoft Announces T-Commerce and Interactive Advertising Trials*, ITVREPORT.COM, Dec. 1, 2000, at <http://www.itvreport.com/news/1200/120100microsoft.htm>.

with more than 50 market-leading companies to make interactive TV a reality today.”⁹²

Similarly, as the following chart attests, ITV platform providers such as Microsoft, Liberate, OpenTV, WorldGate, and ICTV have not been impeded from entering into contractual relationships with other ITV entities.

EXAMPLES OF ITV PLATFORM PROVIDER AGREEMENTS

MicrosoftTV ⁹³	<ul style="list-style-type: none"> • Lists 38 “Interactive TV Tools Partners.” • Created Content Developer Program that provides support for ITV content developers.
Liberate Technologies ⁹⁴	<ul style="list-style-type: none"> • Created a partner program, the PopTV Program, for “promoting the development of ITV based on open Internet and broadcast standards.” • Lists 75 infrastructure, device, and content partners.
OpenTV ⁹⁵	<ul style="list-style-type: none"> • Lists 80 strategic partners and 38 customers (58% of which are satellite providers including EchoStar and only one of which is a U.S. cable operator, USA Media Group).
WorldGate ⁹⁶	<ul style="list-style-type: none"> • Recently added 7 new members to its current 14-member Certified Developer Program.
ICTV ⁹⁷	<ul style="list-style-type: none"> • Financial and technological supporters include: TV Guide, Liberty, OpenTV, ACTV, Shaw Communications, and Adelphia Communications. • Partners with 21 ITV content, 2 ITV set-top box, and 2 ITV middleware companies.

Interactive Program Guide (IPG) providers likewise have been successful entering into contracts for the distribution of their services. For example, Gemstar-TV Guide has entered into

⁹² RespondTV, *Working Together*, at <http://www.respondtv.com/partners.html> (last visited Mar. 15, 2001).

⁹³ See Microsoft, *Interactive TV Tools Partner List*, at http://www.microsoft.com/tv/development/tools_list.asp; Microsoft, *Creating Content: Content Developer Program*, at <http://www.microsoft.com/tv/content/cdp.asp> (last visited Mar. 15, 2001).

⁹⁴ See Liberate Technologies, *Liberate Partners*, at <http://partners.liberate.com/> (last visited Mar. 15, 2001).

⁹⁵ See OpenTV, Inc., *Customers & Partners*, at <http://www.opentv.com/customers/> (last visited Mar. 15, 2001). Open TV has a substantial presence outside of the United States.

⁹⁶ See Press Release, WorldGate, *Momentum Builds for WorldGate’s Certified Developer Program as ITV Solutions Company Adds Seven New Members* (Jan. 18, 2001), available at <http://www.wgate.com/news/2001/0118.html>.

⁹⁷ See ICTV, *Partners*, at <http://www.ictv.com/html/partners/index.html>.

licensing agreements with numerous MSOs for distribution of its interactive program guide with advanced features and interactive advertising capabilities.⁹⁸ In addition, Gemstar-TV Guide has signed licensing agreements with both Motorola and ICTV.⁹⁹ Another IPG provider, Gist, has partnered with thirteen different companies to provide its interactive programming guide.¹⁰⁰

This broad range of commercial agreements among various ITV distributors, ITV platforms, and ITV content providers demonstrates that the marketplace is working, and that government intervention is unnecessary. Maggie Wilderotter, the CEO of Wink, summed up the state of the market best in her recent testimony before Congress:

[Wink] has *not needed any regulatory relief to craft partnerships with over 90 companies in the business* The dynamic marketplace must be allowed to develop [W]e continue to build our business in the current environment, and *we believe that it would be premature to attempt to regulate an industry that is in an embryonic stage.*¹⁰¹

⁹⁸ See, e.g., *Charter Communications to Deploy Gemstar-TV Guide Interactive Program Guide to Additional Markets*, ITVREPORT.COM, Feb. 21, 2001, at <http://www.itvreport.com/news/0201/022101gemstar.htm> (last visited Feb. 27, 2001).

⁹⁹ See *Motorola Licenses Gemstar's Interactive Program Guide Technology for Advanced Digital Set-Tops*, ITVREPORT.COM, Oct. 17, 2000, at <http://www.itvreport.com/news/1000/101700gemstar.htm>; *Gemstar-TV Guide and ICTV Agree to Integrate Products*, ITVREPORT.COM, Nov. 28, 2000, at <http://www.itvreport.com/news/1100/112800gemstar.htm>.

¹⁰⁰ See *Gist, Partner with Gist*, at http://www.gist.com/tv/about/about_partner.htm.

¹⁰¹ *Hearing on Interactive Television Before the Telecomm., Trade, and Consumer Protection Subcomm. of the House Commerce Comm.*, 106th Cong. (Oct. 6, 2000) (statement of Maggie Wilderotter, CEO, Wink, Inc.) available at LEXIS, Committee Hearing Transcripts, Federal News Service File (emphasis added).